

What is claimed is:

1. An apparatus, comprising:
a display assembly;
a keyboard assembly coupled to said display assembly wherein in a first position said display assembly and said keyboard assembly are both covered and wherein said apparatus has a second position to form a mobile voice phone and a third position to form a personal digital assistant, wherein a display on said display assembly is in a portrait mode in said second position and said display on said display assembly is in a landscape mode in said third position.
2. The apparatus of claim 1, wherein said keyboard assembly and said display assembly have substantially the same size.
3. The apparatus of claim 1, wherein said display assembly is stacked over said keyboard assembly in said first position and wherein, in the first position, said keyboard assembly and said display assembly are protected inside said apparatus and are not exposed as external surfaces.
4. The apparatus of claim 1, wherein said keyboard assembly has a QWERTY keyboard layout.
5. The apparatus of claim 1, wherein said keyboard assembly comprises a thumb-style keyboard.

6. The apparatus of claim 1, wherein a keypad for said mobile voice phone is integrated within said keyboard assembly and wherein said display has a length which is larger than a width of said display.

7. The apparatus of claim 1, wherein said display rotates 90 degrees from said second position to said third position.

8. The apparatus of claim 1, wherein said display assembly is centered over said keyboard assembly in said third position.

9. A portable communication apparatus, comprising:
a display assembly having a display;
a keyboard assembly having a thumb-style keypad; and
a rotating hinge assembly disposed along a width of said display assembly and said keyboard assembly, wherein said display assembly rotates open to form a mobile voice phone position with said display in a portrait mode, and wherein said display assembly rotates near a corner of said keyboard assembly to form a personal digital assistant position with said display in a landscape mode.

10. The apparatus of claim 9, wherein said display assembly and said keyboard assembly have substantially the same size.

11. The apparatus of claim 10, wherein said display assembly stacks over said keyboard assembly to form a closed position, and wherein said display and keypad are covered.
12. The apparatus of claim 9, wherein said keyboard assembly is centered relative to said display assembly in said personal digital assistant position.
13. The apparatus of claim 9, wherein said keyboard assembly rests in a plane substantially parallel to said display assembly in said personal digital assistant position.
14. The apparatus of claim 9, wherein said keyboard assembly has a QWERTY key layout.
15. The apparatus of claim 9, wherein said display assembly rotates open up to about 160 degrees relative to said keyboard assembly to form said mobile voice phone position.
16. The apparatus of claim 14, wherein a phone key pad is integrated with said key layout.
17. A portable communication apparatus, comprising:
a display assembly having a display;
a keyboard assembly having a thumb-style keypad; and

a first hinge and a second hinge, said first hinge disposed along a width of said display assembly and said keyboard assembly and said second hinge disposed along a length of said display assembly and said keyboard assembly, wherein said display assembly rotates open along said first hinge to form a mobile voice phone position, and wherein said display assembly rotates open along said second hinge to form a personal digital assistant position.

18. The apparatus of claim 17, wherein said display is in a portrait mode relative to said keyboard assembly in said mobile voice phone position and said display is in a landscape mode in said personal digital assistant position.

19. The apparatus of claim 17, wherein said display assembly and said keyboard assembly have substantially the same size.

20. The apparatus of claim 19, wherein said display assembly stacks over said keyboard assembly to form a closed position, and wherein said display and keypad are covered.

21. The apparatus of claim 17, wherein said keyboard assembly is centered relative to said display assembly in said personal digital assistant position.

22. A portable communication device comprising:

a keyboard assembly having a keyboard with alphanumeric keys;

a display assembly having a display, said display assembly being coupled to said keyboard assembly and being moveable relative to said keyboard assembly between a first open position and a second open position, said first open position being for a voice phone mode and said second open position being for a full alphanumeric keyboard mode, and said keyboard assembly and said display assembly being moveable relative to each other to a closed position in which said display and alphanumeric keys are protected and are not on an exterior surface in the closed position.

23. A portable communication device comprising:

a keyboard assembly having a keyboard with a plurality of alphanumeric keys arranged substantially in rows and columns, wherein the rows and columns are specified by a first up/down direction of a first set of indicia associated with at least a subset of said plurality of alphanumeric keys and wherein there are more columns than rows and wherein said up/down direction of said first set of indicia is aligned substantially parallel with said columns and wherein a second up/down direction of a second set of indicia, associated with at least another subset of said plurality of alphanumeric keys, is aligned substantially perpendicular to said first up/down direction;

a display assembly having a display and being moveably coupled to said keyboard assembly from an open position which exposes said keyboard and said display to a closed position in which said display and said keyboard are protected and are not on an exterior surface in said closed position.

24. A portable communication device comprising:

a keyboard assembly having a keyboard with a plurality of alphanumeric keys arranged substantially in rows and columns, wherein the rows and columns are specified by a first up/down direction of a first set of indicia associated with at least a subset of said plurality of alphanumeric keys and wherein there are more columns than rows and wherein said up/down direction of said first set of indicia is aligned substantially parallel with said columns and wherein a second up/down direction of a second set of indicia, associated with at least another subset of said plurality of alphanumeric keys, is aligned substantially perpendicular to said first up/down direction;

a display assembly coupled to said keyboard assembly, wherein said keyboard assembly has a first long side and a first short side and said display assembly has a second long side and a second short side and wherein in a voice phone mode, said first short side and said second short side are substantially abutting, and wherein in a full keyboard mode said first long side and said second long side are substantially abutting.

25. A portable communication device comprising:

a keyboard assembly having a keyboard with a plurality of alphanumeric keys arranged substantially in rows and columns, wherein the rows and columns are specified by a first up/down direction of a first set of indicia associated with at least a subset of said plurality of alphanumeric keys and wherein there are more columns than rows and wherein said up/down direction of said first set of indicia is aligned substantially parallel with said columns and wherein a second up/down

direction of a second set of indicia, associated with at least another subset of said plurality of alphanumeric keys, is aligned substantially perpendicular to said first up/down direction;

a display assembly having a display and being coupled to said keyboard assembly, said display having a first orientation in a voice phone mode in which text on said display is substantially parallel to said columns and a second orientation in which text on said display is substantially perpendicular to said columns, and wherein in said voice phone mode said display assembly and said keyboard assembly form an angle in a range of about 100° to about 170°.

26. A portable communication device comprising:

a keyboard assembly having a full alphanumeric set of keys and having a first long side and a first short side;

a display assembly having a display and being coupled to said keyboard assembly, said display assembly having a second long side and a second short side, and wherein said display has a first orientation in a voice phone mode in which text on said display is substantially parallel to said first short side and a second orientation in a full keyboard mode in which text on said display is substantially perpendicular to said first short side, and wherein in said voice phone mode, said first short side and said second short side are substantially abutting and wherein in said full keyboard mode said first long side and said second long side are substantially abutting.

27. A portable communication device comprising:

a keyboard assembly having a keyboard with a plurality of alphanumeric keys arranged substantially in rows and columns, wherein the rows and columns are specified by a first up/down direction of a first set of indicia associated with at least a subset of said plurality of alphanumeric keys, and wherein there are more columns than rows and wherein said up/down direction is aligned substantially parallel with said columns;

a display assembly having a display and being coupled to said keyboard assembly, said display having a first orientation in a voice phone mode in which text on said display is substantially parallel to said columns and a second orientation in which text on said display is substantially perpendicular to said columns, and wherein said keyboard has a unitary structure which is fully accessible when said display is in either of said first and said second orientations.

28. A portable communication device comprising:

a keyboard assembly having a full alphanumeric set of keys and having a first long side and a first short side;

a display assembly having a display and being coupled to said keyboard assembly, said display assembly having a second long side and a second short side, and wherein said display has a first orientation in a voice phone mode in which text on said display is substantially parallel to said first short side and a second orientation in a full keyboard mode in which text on said display is substantially perpendicular to said first short side, and wherein in said voice phone mode, said first short side and said second short side are substantially

parallel and wherein in said full keyboard mode said first long side and said second long side are substantially parallel and wherein said device has a closed configuration in which said display and said keys are protected within an interior of said device.

29. A portable communication device comprising:

a keyboard assembly having a keyboard with a plurality of alphanumeric keys, wherein a first up/down direction of a first set of indicia is associated with at least a subset of said plurality of alphanumeric keys and wherein a second up/down direction of a second set of indicia, associated with at least some of said plurality of alphanumeric keys, is aligned substantially perpendicular to said first up/down direction;

a display assembly having a display and being coupled to said keyboard assembly, said display having a first orientation in a voice phone mode in which a row of text on said display is substantially parallel to said first up/down direction and a second orientation in which another row of text on said display is substantially perpendicular to said first up/down direction, and wherein in said voice phone mode said display assembly and said keyboard assembly form an angle in a range of about 100° to about 170°.

30. A portable communication device as in claim 29 wherein said keyboard assembly has a first long side and a first short side; and wherein said angle is in a range of about 130° to about 170°, and wherein

said display assembly has a second long side and a second short side, and wherein said row of text on said display in said voice phone mode is substantially parallel to said first short side and in said second orientation which is a full keyboard mode said another row of text on said display is substantially perpendicular to said first short side, and wherein in said voice phone mode, said first short side and said second short side are substantially parallel and wherein in said full keyboard mode said first long side and said second long side are substantially parallel.

31. A portable communication device as in claim 30 wherein, in a closed mode, said display assembly and said keyboard assembly are protected within an interior of said device.

32. A portable communication device as in claim 31 wherein said keyboard assembly and said display assembly face each other in said closed mode.

33. A portable communication device comprising:

a keyboard assembly having a keyboard with a plurality of alphanumeric keys, wherein a first up/down direction of a first set of indicia is associated with at least a subset of said plurality of alphanumeric keys and wherein a second up/down direction of a second set of indicia, associated with at least some of said plurality of alphanumeric keys, is aligned substantially perpendicular to said first up/down direction;

a display assembly having a display and being coupled to said keyboard assembly, said display having a first orientation in a voice phone mode in which a

row of text on said display is substantially parallel to said second up/down direction and a second orientation in which another row of text on said display is substantially perpendicular to said second up/down direction, and wherein in said voice phone mode said display assembly and said keyboard assembly form an angle in a range of about 100° to about 170°.

34. A portable communication device as in claim 33 wherein said keyboard assembly has a first long side and a first short side; and wherein said angle is in a range of about 130° to about 170° and wherein

said display assembly has a second long side and a second short side, and wherein said row of text on said display in a full keyboard mode is substantially parallel to said first short side and in said first orientation, said another row of text on said display is substantially perpendicular to said first short side, and wherein in said voice phone mode, said first short side and said second short side are substantially parallel and wherein in said full keyboard mode said first long side and said second long side are substantially parallel.

35. A portable communication device as in claim 34 wherein, in a closed mode, said display assembly and said keyboard assembly are protected within an interior of said device.

36. A portable communication device as in claim 35 wherein said keyboard assembly and said display assembly face each other in said closed mode.

37. A portable communication device comprising:

a keyboard assembly having a full alphanumeric set of keys and having a first long side and a first short side;

a display assembly having a display and being coupled to said keyboard assembly, said display assembly having a second long side and a second short side, and wherein said display has a first orientation in a voice phone mode in which a row of text on said display is substantially perpendicular to said first short side and a second orientation in a full keyboard mode in which another row of text on said display is substantially parallel to said first short side, and wherein in said voice phone mode, said first short side and said second short side are substantially parallel and wherein in said full keyboard mode said first long side and said second long side are substantially parallel and wherein said device has a closed configuration in which said display and said keys are protected within an interior of said device.

38. A portable communication device as in claim 37 wherein said text comprises Asian symbols.

39. A portable communication device as in claim 37 wherein said keyboard assembly has a first set of indicia associated with certain of said keys, said first set of indicia having a first up/down direction, and said keyboard assembly has a second set of indicia associated with at least some of said keys, said second set of indicia having a second up/down direction which is perpendicular to said first up/down direction.

40. A portable communication device comprising:

a display assembly having a display;
a keyboard assembly having a plurality of alphanumeric keys, said keyboard assembly being rotatably coupled to a base assembly which is coupled to said display assembly, said keyboard assembly having a first long side and a first short side and wherein a first up/down direction of a first set of indicia is associated with at least a subset of said plurality of alphanumeric keys and a second up/down direction of a second set of indicia is associated with at least some of said plurality of alphanumeric keys and wherein said first up/down direction is substantially perpendicular to said second up/down direction, and wherein said portable communication device has a closed configuration in which said display and said keyboard assembly are protected and are not on an exterior surface in said closed configuration.

41. A portable communication device as in claim 40 wherein, in an open configuration of said portable communication device, said display assembly and said keyboard assembly form an angle of about 130° to about 170°.

42. A portable communication device as in claim 40 wherein text on said display is oriented in the same manner in both a first mode and a second mode, said keyboard assembly being positioned in said first mode such that said first long side is parallel to a second long side of said base assembly, and said keyboard assembly being positioned in said second mode such that said first long side is perpendicular to said second long side.

43. A portable communication device comprising:
a display assembly having a display and a first side of said display, said first side defining an edge of said display;

a keyboard assembly which is coupled to said display assembly, said keyboard assembly having a plurality of alphanumeric keys, wherein a first up/down direction of a first set of indicia is associated with at least a subset of said plurality of alphanumeric keys and wherein a second up/down direction of a second set of indicia is associated with at least some of said plurality of alphanumeric keys, and wherein said first up/down direction is substantially perpendicular to said second up/down direction, and wherein a row of text on said display, in a first mode of said device, is in a first orientation which is parallel to said first side and another row of text on said display, in a second mode of said device, is in a second orientation which is perpendicular to said first side.

44. A portable communication device as in claim 43 wherein said first mode is a phone mode and said second mode is a full keyboard mode.

45. A portable communication device comprising:

a display assembly having a phone keypad and a display and a first side of said display, said first side defining an edge of said display;

a keyboard assembly which is coupled to said display assembly, said keyboard assembly having a plurality of alphanumeric keys, wherein a first up/down direction of a first set of indicia is associated with said plurality of alphanumeric keys and wherein a second up/down direction of a second set of indicia is associated with keys of said phone keypad, and wherein said first up/down direction is substantially perpendicular to said second up/down direction, and wherein a row of text on said display, in a first mode of said device, is in a first orientation which is parallel to said first side and another row of text on said display, in a second mode of said device, is in a second orientation which is perpendicular to said first side.

46. A portable communication device as in claim 45 wherein said keyboard assembly slides out from a side panel of said display assembly.

47. A portable communication device as in claim 45 wherein said keyboard assembly is rotatably coupled to said display assembly and rotates relative to said display assembly.

48. A portable communication device comprising:
a display assembly having a display and a first side of said display, said first side defining an edge of said display;
a keyboard assembly which is coupled to said display assembly, said keyboard assembly having a plurality of alphanumeric keys, wherein a first up/down direction of a first set of indicia is associated with at least a subset of said plurality of alphanumeric keys and wherein a second up/down direction of a second set of indicia is associated with at least some of said plurality of alphanumeric keys, and wherein said first up/down direction is substantially perpendicular to said second up/down direction, and wherein a row of text on said display, in a first mode of said device, is in a first orientation which is parallel to said first side and another row of text on said display, in a second mode of said device, is in a second orientation which is perpendicular to said first side and wherein said keyboard assembly extends out partially, from a first side panel of said display assembly, to reveal a phone keypad and wherein said keyboard assembly extends out further, from said first side panel, to reveal a full keyboard.

49. A portable communication device comprising:

a display assembly having a display and a first side of said display, said first side defining an edge of said display;

a keyboard assembly which is coupled to said display assembly, said keyboard assembly having a plurality of alphanumeric keys, wherein a first up/down direction of a first set of indicia is associated with at least a subset of said plurality of alphanumeric keys and wherein a second up/down direction of a second set of indicia is associated with at least some of said plurality of alphanumeric keys, and wherein said first up/down direction is substantially perpendicular to said second up/down direction, and wherein a row of text on said display, in a first mode of said device, is in a first orientation which is parallel to said first side and another row of text on said display, in a second mode of said device, is in a second orientation which is perpendicular to said first side and wherein said keyboard assembly extends out partially, from a first side panel of said display assembly, to reveal a phone keypad and wherein said keyboard assembly extends out from a second side panel of said display assembly to reveal a full keyboard.

50. A portable communication device comprising:

a display assembly having a display and a first side of said display, said first side defining an edge of said display;

a keyboard assembly which is coupled to said display assembly, said keyboard assembly having a plurality of alphanumeric keys, wherein a first up/down direction of a first set of indicia is associated with at least a subset of said plurality of alphanumeric keys and wherein a second up/down direction of a second set of indicia is associated with at least some of said plurality of alphanumeric keys, and wherein said first up/down direction is substantially perpendicular to said second up/down direction, and wherein a row of text on

said display, in a first mode of said device, is in a first orientation which is parallel to said first side and another row of text on said display, in a second mode of said device, is in a second orientation which is perpendicular to said first side and wherein said display assembly rotates, in a plane parallel with said keyboard assembly, to reveal said keyboard assembly.